WHAT IS CLAIMED IS:

1. An apparatus for processing a video signal comprising:

a generator to generate at least one dither coefficients pattern signal carrying positive and negative dither coefficients arranged in an (n x m ) matrix where " n" and " m" being positive integers larger than zero, the sum total of the coefficients being zero; and

an adder to add the dither coefficients of the pattern signal to an input video signal, thus outputting a video signal.

2. The apparatus according to claim 1, wherein the pattern signal carries an even number of the coefficients, addition of the coefficients in each of two group yielding zero when the coefficients are divided into the two groups, both groups including the same number of the coefficients.

3. The apparatus according to claim 1, wherein the pattern signal carries an odd number of the coefficients, the coefficient located at the center of the matrix being zero.

4. The apparatus according to claim 1, wherein " n" and " m" are equal to each other.

5. The apparatus according to claim 1, wherein the pattern signal carries the same number of the positive and the negative coefficients.

6. The apparatus according to claim 1, the apparatus further comprising a selector to select one of dither coefficients pattern signals for each predetermined unit of picture carried by the video signal or according to locations of pixels on a display panel to which the output video signal is supplied, the adder adding dither coefficients of the selected pattern signal to the input video signal.

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7. An apparatus for processing a video signal comprising:

a pattern generator to generate a plurality of dither pattern signals, each pattern signal carrying positional data indicating locations of dither coefficients on pixels arranged in a matrix on a display panel;

a coefficient generator to generate a dither coefficient signal carrying the dither coefficients arranged in a matrix for each gradation level of an input video signal in response to one of the pattern signal; and

an adder to add the coefficient signal to the input video signal, thus outputting a video signal to be supplied to the display panel.

8. The apparatus according to claim 7, wherein weighting is applied to each dither coefficient, the lower the gradation level, the larger the weighting.

9. The apparatus according to claim 7 further comprising a selector to select the one pattern signal for each predetermined unit of picture carried by the video signal or according to locations of the pixels on the display panel.

Sub B1

10. The apparatus according to claim 7, wherein the adder adds the coefficient signal to the input video signal at gradation levels equal to or lower than a predetermined level.

Sub a2

11. An apparatus for processing a video signal comprising:

a generator to generate a plurality of dither coefficient signals, each coefficient signal carrying dither coefficients arranged in a matrix;

a detector to detect color gradation levels of an input video signal; and

an adder to add one of the coefficient signals to signal components at predetermined gradation levels of the

input video signal, thus outputting a video signal.

12. The apparatus according to claim 11, wherein each coefficient signal carrying positive and negative coefficients arranged in an (n x m) matrix where " n" and " m" being positive integers larger than zero, the sum total of the coefficients being zero.

13. An apparatus for processing a video signal comprising:

a coefficient generator to generate a plurality of dither coefficients pattern signals according to color gradation levels of data carried by an input video signal, the data being supplied to each of dot matrices that constitute pixels on a display panel, each pattern signal carrying dither coefficients arranged in a matrix corresponding to each dot matrix;

a selector to select one of dither coefficients from each pattern signal with respect to each dot matrix, thus outputting a dither coefficients pattern signal that carries the dither coefficients selected from the pattern signals and arranged in the matrix;

an adjuster to adjust the dither coefficients carried by the output pattern signal so that the sum total of the dither coefficients carried by the output pattern signal is zero; and

an adder to add the dither coefficient-adjusted pattern signal to the input video signal, thus outputting a video signal carrying the data to be supplied to the display panel.

14. The apparatus according to claim 13, wherein weighting is applied to the dither coefficients carried by each pattern signal, the lower the gradation level, the larger the weighting.

15. The apparatus according to claim 13 wherein the selector selects one dither coefficient for each

predetermined unit of the data carried by the video signal or according to locations of the pixels on the display panel.

16. The apparatus according to claim 13 wherein the dither coefficients carried by each pattern signal are arranged in an (n x m) matrix, where " n" and " m" being a positive integer larger than zero.

17. The apparatus according to claim 13, wherein each pattern signal carries an even number of the coefficients, addition of the coefficients in each of two group yielding zero when the coefficients are divided into the two groups, both groups including the same number of the coefficients.

18. The apparatus according to claim 13, wherein each pattern signal carries an odd number of the coefficients, the coefficient located at the center of the matrix being zero.

19. The apparatus according to claim 16, wherein " n" and " m" are equal to each other.

20. The apparatus according to claim 13, wherein each pattern signal carries the same number of the positive and the negative coefficients.

21. A method of processing a video signal comprising the steps of:

generating at least one dither coefficients pattern signal carrying positive and negative dither coefficients arranged in an (n x m ) matrix where " n" and " m" being positive integers larger than zero, the sum total of the coefficients being zero; and

adding the dither coefficients of the pattern signal to an input video signal, thus outputting a video signal.

22. The method according to claim 21 further comprising

the step of selecting one of dither coefficients pattern signals for each predetermined unit of picture carried by the video signal or according to locations of pixels on a display panel to which the output video signal is supplied, dither coefficients of the selected pattern signal being added to the input video signal.

23. The method according to claim 21, wherein the pattern signals are generated so that each pattern signal carries an even number of the coefficients, addition of the coefficients in each of two group yielding zero when the coefficients are divided into the two groups, both groups including the same number of the coefficients.

24. The method according to claim 21, wherein the pattern signals are generated so that each pattern signal carries an odd number of the coefficients, the coefficient located at the center of the matrix being zero.

Sub a3

25. A method of processing a video signal comprising the steps of:

generating a plurality of dither pattern signals, each pattern signal carrying positional data indicating locations of dither coefficients on pixels arranged in a matrix on a display panel;

generating a dither coefficient signal carrying the dither coefficients arranged in a matrix for each gradation level of an input video signal in response to one of the pattern signal; and

adding the dither coefficient signal to the input video signal, thus outputting a video signal to be supplied to the display panel.

26. The method according to claim 25, wherein the dither coefficient signal generating step comprises the step of applying weighting to each dither coefficient, the lower the gradation level, the larger the weighting.

27. The method according to claim 25 further comprising the step of selecting the one pattern signal for each predetermined unit of picture carried by the video signal or according to locations of the pixels on the display panel.

28. The method according to claim 25, wherein the addition step comprises the step of adding the coefficient signal to the input video signal at gradation levels equal to or lower than a predetermined level.

29. A method of processing a video signal comprising the steps of:

generating a plurality of dither coefficients pattern signals according to color gradation levels of data carried by an input video signal, the data being supplied to each of dot matrices that constitute pixels on a display panel, each pattern signal carrying dither coefficients arranged in a matrix corresponding to each dot matrix;

selecting one of dither coefficients from each pattern signal with respect to each dot matrix, thus outputting a dither coefficients pattern signal that carries the dither coefficients selected from the pattern signals and arranged in the matrix;

adjusting the dither coefficients carried by the output pattern signal so that the sum total of the dither coefficients carried by the output pattern signal is zero; and

adding the dither coefficient-adjusted pattern signal to the input video signal, thus outputting a video signal to be supplied to the display panel.

30. The method according to claim 29, wherein pattern signal generating step comprises the step of applying weighting to the dither coefficients carried by each pattern signal, the lower the gradation level, the larger the weighting.

31. The method according to claim 29 wherein the selection step comprises the step of selecting one dither coefficient for each predetermined unit of the data carried by the video signal or according to locations of the pixels on the display panel.

32. The method according to claim 29, wherein the pattern signals are generated so that each pattern signal carries an even number of the coefficients, addition of the coefficients in each of two group yielding zero when the coefficients are divided into the two groups, both groups including the same number of the coefficients.

33. The method according to claim 29, wherein the pattern signals are generated so that each pattern signal carries an odd number of the coefficients, the coefficient located at the center of the matrix being zero.